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Courant Institute of
Mathematical Sciences

Computer Science Department

The SETL Project Master Catalog

A Comprehensive Listing of Reports,
Working Papers, and Computer Readable
Document and Program Files Pertaining
to Work at New York University on the
SETL Set-Theoretic Programming Language

Compiled by Robert Abes

Prepared under Grant # NSF-GJ-1202X
with the National Science Foundation

New York University

c.1

COMPUTER SCIENCE DEPARTMENT
COURANT INSTITUTE OF MATHEMATICAL SCIENCES
NEW YORK UNIVERSITY

THE SETL PROJECT MASTER CATALOG

A Comprehensive Listing of Reports, Working Papers, and Computer Readable Document and Program Files Pertaining to Work at New York University on the SETL Set-Theoretic Programming Language

(Complete as of September 1973)

Compiled by Robert Abes

PREPARED UNDER GRANT # NSF - GJ - 1202X

WITH THE NATIONAL SCIENCE FOUNDATION

SETL NEWSLETTER 69 FEBRUARY 5, 1973
REVISED 10/73 R. ARES

THE SETL PROJECT - MASTER CATALOG

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PART 1 - MAJOR DOCUMENTS.

PRICE LIST AND INFORMATION ON MACHINE READABLE OUTPUT FORMATS

1. ON PROGRAMMING, AN INTERIM REPORT ON THE SETL PROJECT.
J. SCHWARTZ

INSTALLMENT 1. GENERALITIES.
JANUARY 1973 VIII+160 PP PRICE $4.25

INSTALLMENT 2. THE SETL LANGUAGE, AND EXAMPLES OF ITS USE.
OCTOBER 1973 VIII+520 PP PRICE $13.00

INSTALLMENT 3. EXTENDED FACILITIES OF THE SETL LANGUAGE.
TO APPEAR

2. A SETLB PRIMER.
H. MULLISH
I. GOLDSTEIN

A STEP-BY-STEP TUTORIAL WITH OVER 100 ILLUSTRATIVE PROGRAMETTES.

JUNE 1973 V+201 PP PRICE $5.25

3. THE SETL RUN-TIME LIBRARY.

THIS IS THE RUN-TIME SUPPORT SYSTEM FOR SETL. IT IS WRITTEN IN LITTLE AND IS WELL DOCUMENTED INTERNALLY. IT SUPPORTS ALL OF THE MAIN SET-THEORETIC PRIMITIVES OF SETL AND IS OF PRIME INTEREST TO THOSE WISHING TO DEVELOP OR MODIFY THE SETL SYSTEM. THE RUN-TIME LIBRARY IS AVAILABLE IN MACHINE READABLE FORM.

PART 1 - MAJOR DOCUMENTS.

4. ASL: A PROPOSED VARIANT OF SETL.

H. WARREN

A PRELIMINARY DESCRIPTION OF AN ALGORITHM SPECIFICATION LANGUAGE, GENERATED AS AN EXTENDED RESPONSE TO A REQUEST FOR CRITICISMS OF SETL. AVAILABLE FREE ON REQUEST.

MAY 1973 XI+326 PP IMM 397

5. OTHER MACHINE READABLE INFORMATION.

THOSE INTERESTED IN ACQUIRING ANY OF THE FOLLOWING DOCUMENTS IN MACHINE READABLE FORM SHOULD ADDRESS AN INQUIRY CONCERNING PRICE TO MISS LENORA GREENE AT THE ADDRESS GIVEN ABOVE.

SETL NEWSLETTER 49 -
DETAILED SPECIFICATIONS OF CERTAIN SETL OPERATIONS.

SETL NEWSLETTER 66 -
BALMSETL USER'S MANUAL VERSION 1.0.

SETL NEWSLETTER 70 -
SETLB USER'S MANUAL.

SETL NEWSLETTER 73 -
USER'S GUIDE TO THE SETL RUN-TIME LIBRARY.

FILE SETLBTESTPACKAGES; ARCHIVE ITEM 37 -
THE SETLB TEST PACKAGES DESCRIBED IN PART 7 OF THIS CATALOG.

FILE ALGORITHMS.SPL -
THE SETL ALGORITHMS LIBRARY ITEMIZED IN PART 6 OF THIS CATALOG

ARCHIVE ITEMS 16, 12, 13 -
BALM PRIMER
BALM REFERENCE MANUAL
BALM SYSTEM LISTING

PART 2 - SETL NEWSLETTERS.

1. BALM-SETL -- A SIMPLE IMPLEMENTATION OF SETL.
   M. HARRISON
   NOVEMBER 1970 8 PP

2. NO LONGER AVAILABLE.

3. MODIFICATIONS AND EXTENSIONS FOR SETL, PART 1.
   D. SHIELDS
   NOVEMBER 1970 6 PP

4. AN APL VERSION OF PETER MARKSTEIN'S MCKEEMAN TABLE ROUTINE.
   P. MARKSTEIN
   NOVEMBER 1970 2 PP

5. MISCELLANEOUS ALGORITHMS WRITTEN IN SETL.
   J. SCHWARTZ
   NOVEMBER 1970 7 PP

6. A REVISED SETL VERSION OF THE MCKEEMAN PARSE.
   P. MARKSTEIN
   NOVEMBER 1970 3 PP

7. MODIFICATIONS AND EXTENSIONS FOR SETL, PART 2.
   D. SHIELDS
   NOVEMBER 1970 8 PP

8. ADDITIONAL MISCELLANEOUS SETL ALGORITHMS.
   J. SCHWARTZ
   NOVEMBER 1970 4 PP

9. IMPLEMENTATION AND LANGUAGE DESIGN.
   M. HARRISON
   DECEMBER 1970 5 PP

10. A SORTING ALGORITHM.
    K. MALY
    DECEMBER 1970 3 PP

11. MODIFICATIONS AND EXTENSIONS FOR SETL, PART 3.
J. SHIELDS
DECEMBER 1970 4 PP

12. RECAPITULATION OF THE BASIC PARTS OF THE SETL LANGUAGE.
J. SCHWARTZ
JANUARY 1971 14 PP

13. ADDITIONAL MISCELLANEOUS ALGORITHMS.
J. SCHWARTZ
JANUARY 1971 7 PP

14. ADDITIONAL SYNTACTIC EXTENSIONS.
J. SCHWARTZ
JANUARY 1971 3 PP

15. A PROPOSED SETL IMPLEMENTATION PLAN THROUGH THE END OF THE BOOTSTRAP PHASE.
J. SCHWARTZ
FEBRUARY 1971 2 PP

16. SETL 64-CHARACTER SET -- 48-CHARACTER SET / 026 KEYPUNCH -- CDC 6600 64-CHARACTER SET / 029 KEYPUNCH.
K. MALY
FEBRUARY 1971 2 PP

17. NO LONGER AVAILABLE.

18. PRELIMINARY SPECIFICATION OF BALMSETL CONVENTIONS.
J. SHIELDS
FEBRUARY 1971 2 PP

19. LEXICAL DESCRIPTION OF SETL.
K. MALY
FEBRUARY 1971 5 PP

20. BALMSETL USER'S GUIDE (IN BRIEF).
J. SHIELDS
MARCH 1971 4 PP

21. AN OUTSIDE REVIEW: COMMENTS ON THE SETL DRAFT.
ANON. (PUBLISHED)
APRIL 1971 8 PP

22. SOME SMALL AND LARGE LANGUAGE EXTENSIONS FOR CONSIDERATION.
J. SCHWARTZ
APRIL 1971 4 PP

23. CURRENT STATUS OF BALMSETL IMPLEMENTATION.
D. SHIELDS
APRIL 1971 3 PP

24. DESCRIPTION OF A REGISTER ALLOCATION ALGORITHM.
K. KENNEDY
APRIL 1971 8 PP

25. A PRINT ROUTINE.
B. LOERINC
APRIL 1971 3 PP

26. THE CURRENTLY SPECIFIED FORM OF SETL FROM A MORE FUNDAMENTAL POINT OF VIEW.
J. SCHWARTZ
MAY 1971 8 PP

27. CODE FOR THE POSTPARSE SETUP PROCEDURE (POSTPARSE METALANGUAGE ANALYSIS).
J. SCHWARTZ
MAY 1971 15 PP

28. AN ALGORITHM FOR COMMON SUBEXPRESSION ELIMINATION AND CODE MOTION.
K. KENNEDY
MAY 1971 10 PP

29. SOME ISSUES CONNECTED WITH SUBROUTINE LINKAGE.
J. SCHWARTZ
MAY 1971 3 PP

30. SINISTER CALLS.
J. SCHWARTZ
MAY 1971 32 PP

31. AN ADDITIONAL PRELIMINARY REMARK ON THE IMPORTANCE OF ~OBJECT TYPES~ FOR SETL, WITH SOME REFLECTIONS ON THE MOTION OF ~DATA STRUCTURE LANGUAGE~,
J. SCHWARTZ
MAY 1971 12 PP

32. HYPER-SETL PROCEDURAL LANGUAGES,
J. SCHWARTZ
MAY 1971 5 PP

33. WHAT IS PROGRAMMING,
J. SCHWARTZ
MAY 1971 9 PP

34. SYNTAX REVISIONS IN PREPARATION FOR IMPLEMENTATION,
J. SCHWARTZ
MAY 1971 12 PP

35. A NEW FORM FOR THE IFF-STATEMENT,
J. SHIELDS
MAY 1971 7 PP

36. NO LONGER AVAILABLE,

37. INITIAL DESCRIPTION OF AN ALGORITHM FOR USE-DEFINITION CHAINING IN OPTIMIZATION,
P. OWENS
JULY 1971 6 PP K. KENNEDY

38. AN ALGORITHM FOR LIVE-DEAD ANALYSIS INCLUDING NODE-SPLITTING FOR IRREDUCIBLE PROGRAM GRAPHS,
K. KENNEDY
JANUARY 1972 10 PP

39. MORE DETAILED SUGGESTIONS CONCERNING ~DATA STRATEGY~ ELABORATIONS FOR SETL,
J. SCHWARTZ
MAY 1971 54 PP

40. NO LONGER AVAILABLE

41. ADDITIONAL PLANNING DETAIL FOR THE CURRENT AND NEXT PHASE OF SETL IMPLEMENTATION.
J. SCHWARTZ
JUNE 1971 4 PP

42. REVISED CONVENTIONS CONCERNING TUPLES.
J. SCHWARTZ
JUNE 1971 6 PP

43. A PARSING SCHEME FOR FORTRAN.
S. GRUBER
JULY 1971 20 PP

44. COMPREHENSIVE SETL SPECIFICATIONS.
K. MALY
JULY 1971 11 PP

45. SEMI-LOCAL SETL OPTIMIZATION.
D. SHIELDS
JULY 1971 8 PP

46. GENERALIZED NODAL SPAN PARSE ROUTINE - PRELIMINARY DRAFT.
J. SCHWARTZ
JULY 1971 12 PP

47. AN OUTLINE FOR A PARSING SCHEME FOR SETL.
K. MALY
JULY 1971 3 PP

48. TOWARD A DOCUMENTATION OF THE STRING PROJECT'S PROGRAM FOR PARSING ENGLISH SENTENCES.
J. HOBBS
AUGUST 1971 19 PP

49. SPECIFICATION OF THE SETL RUN TIME LIBRARY (REVISION 2).
J. WARREN
APRIL 1973 136 PP

50. A THREE-PHASE PARSING SCHEME FOR SETL.
K. MALY
SEPTEMBER 1971 3 PP

51. NO LONGER AVAILABLE.

52. COMMENTS ON SETL.
J. FARLEY
SEPTEMBER 1971 6 PP

53. SETL TO LITTLE TRANSLATOR: A FIRST LOOK.
H. WARREN
SEPTEMBER 1971 26 PP

54. CURRENT STATUS OF BALMSETL=4.
S. GRUBER
SEPTEMBER 1971 5 PP

55. SETL SUGGESTIONS AND QUESTIONS.
S. FINKELSTEIN
SEPTEMBER 1971 5 PP

56. ADDITIONAL COMMENTS ON SOME BASIC SETL OPERATIONS.
J. FARLEY
SEPTEMBER 1971 4 PP

56A. MORE COMMENTS ON SETL.
J. FARLEY
OCTOBER 1971 5 PP

56B. MORE SETL COMMENTS.
J. FARLEY
OCTOBER 1971 10 PP

57. MINIMIZING COPYING IN SETL: PRELIMINARY OBSERVATIONS.
H. WARREN
OCTOBER 1971 3 PP

58. PHASE ONE OF THE SETL COMPILER.
K. MALY
OCTOBER 1971 21 PP

59. AN ALGEBRA OF ASSIGNMENT.
R. KRUTAR
OCTOBER 1971 25 PP

60. SETL COMPILED CODE: CALLS TO SETL PROCEDURES.
H. WARREN
NOVEMBER 1971 48 PP

61. SYNTACTIC STRUCTURE OF SETL.
K. MALY
NOVEMPER 1971 14 PP

62. FINAL SPECIFICATION OF SETL AND PARSER.
K. MALY
DECEMPER 1971 20 PP

63. THE SETL PRINT ROUTINE.
J. FISHER
JANUARY 1972 5 PP

64. SETL COMPILER WITH ELABORATED DATA STRUCTURES.
K. MALY
JANUARY 1972 33 PP

65. SOME NOTATIONAL SUGGESTIONS.
R. BONIC
FEBRUARY 1972 2 PP

66. BALMSETL USER'S MANUAL VERSION 1.0.
E. MILGROM
FEBRUARY 1972 71 PP

67. DATA STRUCTURES OF THE SETL COMPILER FROM THE LITTLE VERSION.
K. MALY
FEBRUARY 1972 16 PP

68. SOME THOUGHTS ON EFFICIENT PROGRAMMING IN SETLB.
S. BROWN
OCTOBER 1972 5 PP

69. THE SETL PROJECT - MASTER CATALOG (REVISED 10/73).
R. ABFS
FEBRUARY 1973 37 PP

70. SETLB USER'S MANUAL.
J. SCHWARTZ
FEBRUARY 1972 66 PP

71. DEDUCING THE LOGICAL STRUCTURE OF OBJECTS OCCURRING IN SETL PROGRAMS. J. SCHWARTZ
APRIL 1972 14 PP

72. AN INTRODUCTORY EXPLANATION OF SETL: A STATUS REVIEW AND PROFILE OF THE SETL USER GROUP. D. SHIELDS
APRIL 1972 13 PP

73. USER'S GUIDE TO THE SETL RUN-TIME LIBRARY. K. MALY
APRIL 1972 33 PP H. WARREN

74. PROJECT PLAN FOR FIRST STAGE OF IMPLEMENTATION. (PARTIAL TRANSLATION FROM THE RUSSIAN) E. GORODNAYA D. LEVIN
MAY 1972 3 PP V. CHERNORROD

75. SOME THOUGHTS ON THE USE OF BALM TO IMPLEMENT SETL. (THIS IS ALSO BALM BULLETIN NO. 13) E. MILGROM
JUNE 1972 7 PP

76. SEMANTIC DEFINITION MATTERS. J. SCHWARTZ
MAY 1973 91 PP B. JENNINGS

77. TRANSFERRING SETL? TO OTHER MACHINES. J. SCHWARTZ
SEPTEMBER 1972 1 PP

78. EXECUTING BALM AND SETLB AT N.Y.U. COURANT. R. PAIGE
SEPTEMBER 1972 2 PP

79. NO LONGER AVAILABLE.

80. ALGORITHMS IN THE SETLB TEST PACKAGE. K. CURTIS
SEPTEMBER 1972 3 PP

81. MEMORY SIZE OF SETL2 RUNS.
J. SCHWARTZ
SEPTEMBER 1972 1 PP S. BROWN

82. TIMING COMPARISON BETWEEN SETLB AND FORTRAN.
E. DESAUTELS
OCTOBER 1972 2 PP

83. USER EXPERIENCE AND HUMAN FACTORS.
J. SCHWARTZ
NOVEMBER 1972 16 PP

84. PLAN FOR A LIBRARY OF ALGORITHMS.
J. SCHWARTZ
NOVEMBER 1972 16 PP

85. ESTIMATE OF MINIMUM RUNNING SIZE FOR THE NEXT SETL SYSTEM (REVISION 1).
H. WARREN
APRIL 1973 6 PP

86. PROPOSAL FOR A TEMPORARY, BUT EASILY IMPLEMENTED, SOFTWARE PAGING SYSTEM.
J. SCHWARTZ
NOVEMBER 1972 7 PP

87. WORKPLAN FOR THE NEXT PHASE OF SETL IMPLEMENTATION.
J. SCHWARTZ
NOVEMBER 1972 7 PP

88. A SCHEME FOR BALMSETL MEASUREMENTS.
J. SCHWARTZ
NOVEMBER 1972 2 PP

89. USER INFORMATION FOR LEXICAL SCAN SETUP PACKAGE.
E. GUTH
NOVEMBER 1972 2 PP T. POLACEK

90. PRELIMINARY REFLECTIONS ON THE USE OF SETL IN A DATA-BASE CONTEXT.
J. SCHWARTZ
DECEMBER 1972 18 PP

91. A GRAMMARLESS PARSE AND A RELATED METHOD OF RETRIEVAL BY SIMILARITY. J. SCHWARTZ
DECEMBER 1972 24 PP

92. SOME EXPERIMENTS WITH SETLB PROGRAMS.
K. CURTIS
JANUARY 1973 9 PP

93. A NOTE ON OPTIMIZATION AND PROGRAMMING STYLE IN SETL.
K. CURTIS
JANUARY 1973 2 PP

94. AN ALGORITHM TO REPRESENT A COLLECTION OF SETS AS INTERVALS (O A LINE). J. JENNINGS
JANUARY 1973 9 PP

95. GENERALIZED NODAL SPAN PARSE ROUTINE, CORRECTED VERSION.
Y. FEINROTH
JANUARY 1973 10 PP

96. POINTERS AND "VERY HIGH LEVEL LANGUAGES".
M. MINSKY
JANUARY 1973 3 PP

97. SETL EXTENSIONS FOR OPERATING SYSTEM DESCRIPTION.
P. MARKSTEIN
FEBRUARY 1973 24 PP

98. REFLECTIONS ON P. MARKSTEIN'S NEWSLETTER 0 SETL EXTENSIONS FOR OPERATING SYSTEM DESCRIPTION. J. SCHWARTZ
JANUARY 1973 9 PP

99. PAGING, THE QUICK AND DIRTY WAY.
(THIS IS ALSO BALM BULLETIN NO. 21) S. BROWN
JANUARY 1973 4 PP

100. MAKING SETL DEBUGGING RUNS.
H. WARREN
FEBRUARY 1973 11 PP

101. HOW TO PROGRAM IF YOU MUST (THE SETL STYLE).
R. BONIC
MARCH 1973 15 PP

102. REDUCTION IN STRENGTH USING HASHED TEMPORARIES.
K. KENNEDY
MARCH 1973 12 PP

103. PRELIMINARY PLAN FOR BALM-TO-LITTLE TRANSLATOR.
J. SCHWARTZ
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104. AN ALGORITHM TO REPRESENT A COLLECTION OF SETS AS A DIRECT PRODUCT OF INTERVALS ON THE LINE.
G. JENNINGS
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105. A SETL PROGRAM FOR A BASIC BLOCK OPTIMIZER AND AN EXTENDED BASIC BLOCK OPTIMIZER.
S. MARATECK
APRIL 1973 11 PP J. SCHWARTZ

106. USER VARIATION OF THE SEMANTICS OF FUNCTION AND SUBROUTINE INVOCATION.
G. JENNINGS
MAY 1973 3 PP

107. LINEAR FUNCTION TEST REPLACEMENT.
K. KENNEDY
MAY 1973 5 PP

108. APL - SETL, AN EXTENSION OF SETL ACHIEVED FROM USER VARIED SEMANTICS.
G. JENNINGS
MAY 1973 34 PP

109. FASTER EXECUTION FOR THE LITTLE BASED BALM SYSTEM.
S. BROWN
JULY 1973 4 PP

110. MORE ON SEMANTIC DEFINITION MATTERS.
J. SCHWARTZ
IN PROGRESS

111. GLOBAL DEAD COMPUTATION ELIMINATION.
K. KENNEDY
AUGUST 1973 8 PP

112. AN ALGORITHM TO COMPUTE COMPACTED USE-DEFINITION CHAINS.
K. KENNEDY
AUGUST 1973 8 PP

113. LITTLE CODE GENERATION FROM THE BALM COMPILER.
S. BROWN
AUGUST 1973 10 PP

114. A SETLB TO PUBLICATION SETL TRANSLATOR.
A. GETZLER
AUGUST 1973 7 PP

115. A SETL REPRESENTATION OF THE MARYLAND GRAA- GRAPH-MANIPULATION LANGUAGE.
J. WEINBERGER
AUGUST 1973 32 PP A. TENENBAUM

116. CATALOG OF SETL(C) NEWSLETTERS AS OF JULY 30, 1973.
(THIS IS ALSO SETL(C) NEWSLETTER 11.)
A. ERSHOV ET AL
AUGUST 1973 5 PP (NOVOSIBIRSK GROUP)

PART 3 - LITTLE NEWSLETTERS.

1. I/O CONVENTIONS AND PROPOSAL; QUOTED STRINGS; OCTAL CONSTANTS; USER INFORMATION FOR IMPROVED MACROPROCESSOR.
   A. STEIN
   OCTOBER 1971 8 PP J. SCHWARTZ

2. FILES FOR THE LITTLE PROJECT.
   D. GOLDBERG
   OCTOBER 1971 3 PP

3. POSSIBLE FUTURE EXTENSIONS TO LITTLE.
   J. SCHWARTZ
   NOVEMBER 1971 16 PP

4. A "LITTLE" MACHINE.
   J. SCHWARTZ
   NOVEMBER 1971 11 PP

5. USER INFORMATION CONCERNING THE LITTLE-TO-FORTRAN TRANSLATOR.
   J. SCHWARTZ
   NOVEMBER 1971 3 PP

6. EXTENSION TO LITTLE TO IMPROVE CHARACTER STRING PROCESSING.
   J. SHIELDS
   JANUARY 1972 3 PP

7. LITTLE FOR MINICOMPUTERS.
   T. STUART
   MARCH 1972 26 PP

8. USE OF COMMENTS IN LITTLE.
   D. SHIELDS
   MARCH 1972 2 PP

9. SOME SUGGESTIONS FOR SIMPLIFYING THE PREPARATION OF SETL AND LITTLE TEXT: KEYBOARD AND LEXICAL MACROS. D. SHIELDS
   MARCH 1972 6 PP

10. INTERSPERSING MACROS.
    J. SCHWARTZ
    APRIL 1972 9 PP

11. INPUT / OUTPUT STATEMENTS FOR LITTLE. R. ABES
H. WARREN
APRIL 1972 21 PP E. MILGROM

12. NEW CONVENTIONS FOR LITTLE: COMMENTS, USE OF SEMICOLON AS A STATEMENT TERMINATOR. J. SHIELDS
JUNE 1972 2 PP

13. MACRO CAPABILITIES FOR STRUCTURED PROGRAMMING. R. ABES
JULY 1971 15 PP H. WARREN

14. MASS STORAGE UTILIZATION IN LITTLE. P. MACLEAN
JULY 1972 9 PP

15. PARTIAL MULTI-WORD FACILITY FOR THE FORTRAN VERSION OF LITTLE. A. STEIN
JULY 1972 2 PP

16. SOME TIMING STATITSTICS FOR LITTLE. J. SHIELDS
OCTOBER 1972 10 PP

17. TEST PACKAGES FOR THE LITTLE COMPILER. R. ABES
NOVEMBER 1972 1 PP

18. A NEW ARRAY OPTIMIZATION FOR BASIC BLOCKS. J. SCHWARTZ
NOVEMBER 1972 4 PP

19. LITTLE USER'S GUIDE I. BRENNER
MAY 1973 21 PP

20. REMARKS ON THE STRUCTURE OF THE SETL RUN TIME LIBRARY. J. SHIELDS
NOVEMBER 1972 5 PP

21. SOME PROPOSALS FOR IMPROVING THE ACCESSIBILITY OF THE LITTLE COMPILER.
J. SHIELDS
DECEMBER 1972 9 PP

22. EXAMPLES OF LITTLE-GENERATED CODE.
J. SHIELDS
DECEMBER 1972 5PP

23. NAMESETS: A NEW WAY TO HANDLE GLOBAL VARIABLES IN LITTLE.
J. SHIELDS
JANUARY 1973 6 PP

24. PROPOSALS FOR THE NEXT STAGE OF LITTLE DEVELOPMENT.
J. SHIELDS
MARCH 1973 6 PP

25. PROPOSED EXTENSIONS TO LITTLE.
J. SHIELDS
JUNE 1973 25 PP

26. PLAN FOR THE DEVELOPMENT OF A LITTLE COMPILER FOR THE BESM/6.
A. CHERNOBROD
AUGUST 1973 3 PP

29. A MEDIUM-LEVEL SEMANTIC ENVIRONMENT BASED ON LITTLE.
J. SCHWARTZ
SEPTEMBER 1973 20 PP

PART 4 - ADDITIONAL SETL DOCUMENTATION.

1. SET THEORY AS A LANGUAGE FOR PROGRAM SPECIFICATION AND PROGRAMMING. J. SCHWARTZ
   SEPTEMBER 1970 97 PP

2. ABSTRACT ALGORITHMS, AND A SET-THEORETIC LANGUAGE FOR THEIR EXPRESSION. (THE "SETL MANUSCRIPT") J. SCHWARTZ
   DECEMBER 1970 298 PP

PART 5 - MBALM NEWSLETTERS.

1. INTRODUCTION.
   J. HARRISON
   JUNE 1971 3 PP

2. THE MBALM MACHINE.
   J. HARRISON
   JUNE 1971 11 PP

3. THE MBALM SIMULATOR ON THE CDC 6600.
   S. BROWN
   JUNE 1971 5 PP

4. STATUS OF BALM4.0.
   J. HARRISON
   JUNE 1971 3 PP

5. BALM4.0 SYSTEM LISTING.
   J. HARRISON
   JUNE 1971 18 PP

6. ONGOING IMPROVEMENTS, MODIFICATIONS AND ASSOCIATED PROJECTS.
   J. HARRISON
   JULY 1971 2 PP

7. SUGGESTIONS FOR NEW MBALM INSTRUCTIONS
   J. HARRISON
   JULY 1971 1 PP

8. STATUS AUGUST 1971 AND SOME COMPARISONS OF BALM3 AND BALM4.
   S. BROWN
   AUGUST 1971 3 PP

9. CHANGES WHICH ARE IN BALM4.1.
   J. HARRISON
   OCTOBER 1971 3 PP

10. FASTER EXECUTION.
    J. HARRISON
    NOVEMBER 1971 10 PP

11. FACILITIES FOR NON-SEQUENTIAL PROCESSING.
M. HARRISON
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12. BALM EDITOR.
S. BROWN
MARCH 1972 3 PP

13. SOME THOUGHTS ON THE USE OF BALM TO IMPLEMENT SETL.
E. MILGROM
JUNE 1972 7 PP

14. COMMENTS ON BULLETIN 13.
M. HARRISON
JUNE 1972 5 PP

15. PROBLEMS IN BALM4.
M. HARRISON
JULY 1972 3 PP

16. REAL NUMBERS IN BALM.
S. BROWN
SEPTEMBER 1972 5 PP P. MAURIELLO

17. PAGING WITHIN BALM.
M. HARRISON
OCTOBER 1972 4 PP

18. PAGING PRIMITIVES.
S. BROWN
NOVEMBER 1972 2 PP

19. BALM ON THE XDS SIGMA V AND THE DEC PDP-10.
S. BROWN
NOVEMBER 1972 2 PP

20. NO LONGER AVAILABLE.

21. PAGING, THE QUICK AND DIRTY WAY, S. BROWN
JANUARY 1973 4 PP

22. REFLECTIONS ON BALM, J. PFEFFER
JANUARY 1973 30 PP

23. LANGUAGE-ORIENTED INSTRUCTION SETS, H. HARRISON
FEBRUARY 1973 19 PP

24. MBALM-66 TRANSLATOR, R. PAIGE
MARCH 1973 49 PP

25. TOP-DOWN META-PARSER USERS GUIDE, S. BROWN
SEPTEMBER 1973 19 PP

PART 6 - THE SETL(CYRILLIC) NEWSLETTERS.

*** ***

THE SERIES OF NEWSLETTERS IN RUSSIAN CONCERNING SETL, BEING WRITTEN AT THE NOVOSIBIRSK COMPUTING CENTER, IS DESIGNATED IN THIS CATALOG AS THE SETL(CYRILLIC) OR SETL(C) SERIES.

*** ***

1. PHASE 1 IMPLEMENTATION PROJECT.
   J. LEVIN
   9 PP .. CHERNOBROD

2. A CONCEPTUAL REVIEW OF THE SET-THEORETIC LANGUAGE SETL.
   .. CHERNOBROD
   41 PP

3. LISPSETL USER'S MANUAL, VERSION 1.
   .. CHERNOBROD
   25+21 PP

4. THE BALM INPUT LANGUAGE OF THE SYSTEM BALM-BESM/6.
   J. LEVIN
   29 PP

5. THE SYSTEM BALM-BESM/6.
   J. LEVIN
   19+37 PP

6. SETL: SOURCE LANGUAGE OF AN EXPERIMENTAL IMPLEMENTATION.
   J. LEVIN
   22 PP

7. INTERNAL REPRESENTATION OF SETS AND AN EXPERIMENTAL IMPLEMENTATION OF SET-THEORETIC OPERATIONS. J. LEVIN
   34 PP

8. THE SETLBALM SYSTEM AND A PRELIMINARY IMPLEMENTATION OF SETL.
   J. LEVIN
   10 PP

9. DECOMPOSITION OF SETL PROGRAMS.
G. LEVIN
15 PP

10. INTERACTION OF DATA TYPES.
G. GORODNAYA
30 PP

11. CATALOG OF SETL(C) NEWSLETTERS 1 - 12.
(THIS IS ALSO SETL NEWSLETTER 116.)
A. ERSHOV ET AL
(NOVOSIBIRSK GROUP)
3 PP

12. PARALLEL PROGRAMMING AND HIGH LEVEL LANGUAGES.
A. NARINYANI
6 PP

PART 7 - THE SETL ALGORITHMS LIBRARY.

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A LIBRARY OF SUBSTANTIAL, IMPORTANT ALGORITHMS CODED IN SETLB CURRENTLY RESIDES ON THE FILE ALGORITHMSPL. THE ADDITION OF OTHER ALGORITHMS TO THIS LIBRARY, AND THE IMPROVEMENT OF THE DOCUMENTATION AND PERFORMANCE OF THE ALGORITHMS THAT HAVE BEEN ESTABLISHED, IS AN ONGOING PROJECT. CONTENTS ARE AS FOLLOWS.

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1. DECK BINRES (413 CARDS) AN AUTOMATIC THEOREM PROVER OPERATING
   DECK HYPRES (133 CARDS) ON STATEMENTS IN THE SENTENTIAL CAL-
   CODER: E. SCHONBERG CULLS. PRODUCES SHORTEST PROOFS VIA A BREADTH FIRST TREE SEARCH WHEN THE BINARY RESOLUTION PRINCIPLE IS USED, OR LONGER PROOFS IN LESS TIME WHEN HYPER-RESOLUTION IS EMPLOYED.

2. DECK TYPEVAR (543 CARDS) GIVEN THE GRAPH OF A PROGRAM AND SOME
   CODER: K. ABDALI INFORMATION ABOUT ITS ASSIGNMENT STATEMENTS, THIS ALGORITHM FINDS THE TYPES THAT A VARIABLE CAN ASSUME DURING THE EXECUTION OF THE PROGRAM. ONE OF THE MORE IMPORTANT SETL COMPILER OPTIMIZATIONS WILL BE BASED ON EXPERIMENTATION WITH THIS ALGORITHM.

3. DECK MATCHUP (147 CARDS) A MODIFICATION OF MARSHALL HALL'S
   CODER: G. WHITEHEAD ALGORITHM FOR THE MARRIAGE PROBLEM WHICH WILL YIELD A MAXIMAL SYSTEM OF DISTINCT REPRESENTATIVES (MAXIMAL MATCHING).

4. DECK TOPDATA (112 CARDS) A TOP DOWN PARSER AND ITS INPUT DATA,
   DECK TOPDWNA (236 CARDS) COMPLETE WITH A BOOTSTRAPPING META-
   DECK TOPDWNP (248 CARDS) COMPILER THAT OPERATES ON AN EXTENDED
   CODER: S. MARATECK BACKUS NORMAL FORM DESCRIPTION OF THE
   S. BROWN LANGUAGE.

5. DECK MCKEMAN (531 CARDS) — GENERATES THE MCKEEMAN TABLES (A SERIES OF GENERALIZED PRECEDENCE TABLES) USING BACKUS NORMAL FORM GRAMMAR AS ITS INPUT. SAMPLE INPUT DATA IS INCLUDED.
   CODER: I. KAYE

6. DECK CHOMSNF (164 CARDS) — REMOVES NULL VARIABLES FROM A CONTEXT FREE INPUT GRAMMAR (DESCRIBED BY ITS PRODUCTIONS) AND PUTS IT INTO CHOMSKY NORMAL FORM. SAMPLE INPUT DATA IS INCLUDED.
   CODER: H. ANTHONY

7. DECK GENNSPF (478 CARDS) — A GENERALIZED NODAL SPAN PARSER, WITH ATTRIBUTES. SAMPLE INPUT DATA IS INCLUDED.
   DECK GENNSPD (7 CARDS)
   CODER: Y. FEINROTH

8. DECK EULERGR (117 CARDS) — A SETLB CODING OF L. EULER'S GRAPH TRACING ALGORITHM USUALLY ASSOCIATED WITH THE BRIDGES OF KOENIGSBERG.
   CODER: H. MULLISH

9. DECK LEXGENA (477 CARDS) — THE INPUTS TO THIS MINI-SYSTEM ARE TABLES DESCRIBING THE CHARACTER SET, CHARACTER TYPES, AND ACTIONS TO BE TAKEN DURING THE LEXICAL SCAN OF AN ARBITRARY LANGUAGE. THE OUTPUT IS A FORTRAN PROGRAM WHICH IS A WORKING LEXICAL SCANNER FOR THE DESCRIBED LANGUAGE, COMPLETE WITH TOKEN FILE AND ERROR MESSAGE GENERATORS.
   DECK LEXGENP (65 CARDS)
   DECK LEXGENC (43 CARDS)
   CODER: T. POLACEK

10. DECK HEURMAC (29 CARDS) — FIVE COMPLETE INDEPENDENT HEURISTIC SEARCH PROCEDURES, MOSTLY DUE TO NILSSON, PRECEDED BY A DECK OF MACROS WHICH THEY ALL USE. THE ALGORITHMS ARE: A GENERAL PATH FINDER, A TREE SEARCH, A UNIFORM COST SEARCH, A BREADTH FIRST SEARCH, AND A DEPTH FIRST SEARCH.
    DECK HEURA (202 CARDS)
    DECK HEURB (376 CARDS)
    DECK HEURC (91 CARDS)
    DECK HEURD (92 CARDS)
    DECK HEURE (82 CARDS)
    CODER: L. WEBER

11. DECK GPS (439 CARDS) — A STRIPPED DOWN VERSION OF ERNST, NEWELL AND SHAW'S GENERAL PROBLEM SOLVER PROGRAM, WITH A SAMPLE SPECIFICATION FOR THE 'MONKEY AND BANANAS' PROBLEM.
CODER: A. GETZLER

12. DECK SCGRAPH (100 CARDS) — TWO SEPARATE ALGORITHMS TO FIND THE STRONGLY CONNECTED REGIONS OF A DIRECTED GRAPH. A PROGRAM TO GENERATE THE PARTITIONS OF A NUMBER; A PROGRAM TO GENERATE ALL BINARY TREES. TWO SEPARATE ALGORITHMS FOR ASSEMBLY LINE BALANCING.
DECK PARTREE (124 CARDS)
DECK BALANCE (289 CARDS)
CODER: W. TSUI

13. DECK POLY (283 CARDS) — A COLLECTION OF ROUTINES FOR THE STANDARD ALGEBRAIC MANIPULATIONS OF POLYNOMIALS. TEST INPUT IS INCLUDED.
CODER: E. GUTH

14. DECK GRAAL (651 CARDS) — A SETL REPRESENTATION OF THE UNIVERSITY OF MARYLAND GRAPH MANIPULATION LANGUAGE (GRAAL) OF RHEINHOLD, BASIL AND NESZTENYI AS EXPLAINED IN SETL NEWSLETTER 115. SAMPLE INPUT DATA IS INCLUDED.
CODER: G. WEINBERGER
A. TENENBAUM

PART 8 - THE SETL TEST PACKAGES.

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A LIBRARY OF TEST PROGRAMS, CODED IN SET-B, CURRENTLY RESIDES ON THE FILE SETLBTESTPACKAGES. THIS LIBRARY WAS ESTABLISHED TO SPOT BUGS IN COMPILER MODIFICATIONS, AND TO PROVIDE SOME STANDARDS FOR TIMING STUDIES. THE ALGORITHMS VARY WIDELY IN SIZE, CONTENT, AND CODING STYLE.

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1. HUFFMAN (75 CARDS) - PRODUCES A HUFFMAN TREE AND TABLE FOR UNIQUE BIT STRING ENCODING GIVEN A SET OF CHARACTERS AND A FREQUENCY OF USE FUNCTION OVER THAT SET.

2. MISCPERM (50 CARDS) - CONTAINS SHORT PROGRAMS TO MAKE A SEQUENCE OUT OF A TUPLE; COMPOSE TWO FUNCTIONS INTO ONE; OBTAIN THE INVERSE OF A FUNCTION; OBTAIN THE CYCLE FORM OF A PERMUTATION; OBTAIN THE INVERSE OF A PERMUTATION; OBTAIN THE INVERSE OF A PERMUTATION GIVEN IN CYCLE FORM.

3. PERM (49 CARDS) - GENERATES ALL PERMUTATIONS OF N OBJECTS IN LEXICOGRAPHIC ORDER.

4. MEDIAN (139 CARDS) - FINDS THE K-TH NUMBER (IN ASCENDING ORDER) OF A GIVEN SET OF NUMBERS. THIS ALGORITHM, DUE TO FLOYD, ET AL IN 1971, RUNS IN LINEAR TIME AS A FUNCTION OF THE NUMBER OF ITEMS IN THE GIVEN SET.

5. POCKSORT (59 CARDS) - A RADIX SORT IN WICH THE ITEMS TO BE SORTED AND THE RADIX ARE INPUT PARAMETERS.

6. TREEPRINT (193 CARDS) - PRINTS BINARY OR ORDERED TREES IN A TREE-LIKE FORMAT.

7. FORDJ (157 CARDS) - THE FORD-JOHNSON TOURNAMENT SORT ALGORITHM (A COMPLICATED MINIMUM COMPARISON SORT).

8. SETUP AND DSETLP (190 CARDS) - READS SETL CODE, AND PREPARES A STRING AND SOME TABLES FOR THE LEXICAL SCANNER.

9. INTPRINT (290 CARDS) - PRINTS THE FLOW-GRAPH OF A PROGRAM IN FLOWCHART-LIKE FORMAT GIVEN A SET OF PATHS AND A SET DEFINING THE ORDER IN WHICH TO PRINT THE NODES.

10. TWERGE (35 CARDS) - THE NATURAL TWO-WAY MERGE FOR FAST IN-CORE SORTING.

11. PRIMES (72 CARDS) - CONTAINS SHORT PROGRAMS TO GENERATE PRIMES BY THE SEIVE METHOD; GENERATE PRIMES DIRECTLY FROM THEIR DEFINITION; FIND THE PRIME FACTORS OF A GIVEN NUMBER.

12. PIGLATIN (27 CARDS) - STRING BREAKUP AND TRANSLATION VIA TABLE LOOKUP OR A PROGRAMMED ENGLISH-PIGLATIN DICTIONARY.

13. INSANITY (29 CARDS) - A BACKTRACKING ALGORITHM TO SOLVE THE INSTANT INSANITY (COLORED CUBES) PUZZLE.

14. NODSPAN (91 CARDS) - A NODAL SPAN PARSE ROUTINE WHICH CAN APPL ANY PRODUCTION GRAMMAR IN CHOMSKY NORMAL FORM TO AN INPUT STRI

15. PASCAL (16 CARDS) - A STRING MANIPULATION AND FORMATTING PROGR WHICH PRINTS PASCAL'S TRIANGLE NEATLY.

16. ERRAUT (104 CARDS) - CALCULATES THE STRUCTURE OF THE AUTOMATON ASSOCIATED WITH ERROR DETECTION IN 'LR' PARSING.

17. SPLASH (138 CARDS) - SOLVES ALL THE OLD BUCKET PROBLEMS (E.G. HOW TO GET 4 GALLONS OF WATER GIVEN A 3 AND A 5 GALLON BUCKET)

18. MAXFLOW (103 CARDS) - A PACKAGE TO FIND A PATH IN AN ORDERED GRAPH; DETERMINE THE MAXIMUM FLOW IN A NETWORK; AND APPLY THE MAXIMUM FLOW ALGORITHM TO THE MATCHING PROBLEM.

PART 9 - THE SETL ARCHIVES.

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THE SETL ARCHIVES WERE CREATED 1/73 TO PROVIDE BACKUP FILES IN CASE OF PHYSICAL DISASTER. TO THIS END: TAPE 781 IS IN NEW JERSEY AND AVAILABLE FROM H. WARREN. TAPE 782 IS IN WESTCHESTER AND AVAILABLE FROM F. ALLEN. TAPES 2025 AND 2026 ARE IN THE TAPE VAULT HERE AT COURANT. THE ARCHIVES ARE DESCRIBED HERE FOR THOSE WHO ARE CLOSELY INVOLVED IN ACTUAL IMPLEMENTATION WORK.

THE 38 ITEMS LISTED BELOW ARE FILES 1 - 38 ON TAPE 781 AND FILES 1 - 38 ON TAPE 782. ITEMS 1 - 17 ARE FILES 1 - 17 ON TAPE 2025. ITEMS 18 - 38 ARE FILES 1 - 21 ON TAPE 2026. EACH ITEM IS DESCRIBED BELOW IN A TWO LINE FORMAT. THE FIRST LINE GIVES THE ITEM NUMBER, THE CATALOG PROGRAM CHECKSUM, AND THE SOURCE OF THE ITEM (USUALLY, PERMANENT FILE NAME AND CYCLE NUMBER). THE SECOND LINE IS A QUICK VERBAL HANDLE TO WHAT THE ITEM IS. THE FILE SETLCODE3 IS AVAILABLE AS FILE 3 OF TAPE 694 AT COURANT, AND ALSO FROM K. MALY IN MINNEAPOLIS.

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1. CATSUM=2243 PFN=SETLNSALGC CY=13
   SETL8 PROGRAM - FRONT END FOR NAME SCOPING ALGORITHMS.

2. CATSUM=37372 PFN=SRC1202 CY=61
   BALM SETL SOURCE - CODE AND MANUAL.

3. CATSUM=113651 PFN=STOLCOMPL CY=1
   SAME AS CYCLE 2 BEFORE RESEQUENCING.

4. CATSUM=137562 PFN=STOLCOMPL CY=2
   SETL COMPILER IN LITTLE + SETL COMPILER IN SETL.

5. CATSUM=133566 PFN=STOLCOMPLI CY=1
   SAME AS CYCLE 2 BEFORE RESEQUENCING

6. CATSUM=53751 PFN=STOLCOMPLI CY=2
   SETL COMPILER IN LITTLE.

7. CATSUM=30015 PFN=TESTPL CY=1
MISCELLANEOUS OBSOLETE TEST PROGRAMS

8. CATSUM=3065 PFN=THEOREMPL CY=1
THEOREM PROVER IN SETL.

9. CATSUM=5562 PFN=TOPDOWNPL CY=10
TOP DOWN PARSER IN SETL.

10. CATSUM=54543 PFN=LDSLTLPL CY=7
SHORTENED LITTLE COMPILER IN FORTRAN.

11. CATSUM=20167 PFN=P4SOURCE CY=4
SOURCE CODE FOR SIMULATOR SYSTEM.

12. CATSUM=43240 PFN=P4SOURCE CY=12
SOURCE CODE FOR TRANSLATOR SYSTEM.

13. CATSUM=11316 PFN=BALM4BINARY CY=1
MBALM FILE OF THE BALM COMPIER SYSTEM.

14. CATSUM=122135 CIMLIB SET1174
SETLB COMPILER IN FORTRAN.

15. CATSUM=37431 CIMLIB SLB1174
SUPPORT LIBRARY FOR SETLB (INCLUDING METACOMPILER).

16. CATSUM=67250 CIMLIB BLM4SRC
BALM SOURCE FILE FOR BALM SYSTEM.

17. CATSUM=302175 TAPE 776 FILE 1
LITTLE TO FORTRAN TRANSLATOR.

18. CATSUM=3064 PFN=ASSGNV1 CY=8
FORTRAN UTILITY PROGRAM.

19. CATSUM=41247 PFN=CLEANLITLEXL CY=28
LITTLE LEXICAL SCANNER IN LITTLE - REFORMATTED.

20. CATSUM=3705 PFN=EDITSETUP CY=3
SETL PROGRAM YIELDING LEX SCANNER IN FORTRAN FOR ANY LANGUAGE.

21. CATSUM=45155 PFN=GENZZZZ1174 CY=37
LITTLE TO SETLE COMPILER IN FORTRAN FOR OPTIMIZER USE.

22. CATSUM=64003 PFN=LDSPL CY=6
MISCELLANEOUS SUPPORT AND UTILITY PROGRAMS.

23. CATSUM=27733 PFN=LITLITDOC1175 CY=22
DOCUMENTATION FOR LITTLE COMPILER IN LITTLE.

24. CATSUM=5625 PFN=LITTLELIBSOURCE CY=6
ASSEMBLER LANGUAGE UTILITY ROUTINES USED BY LITTLE COMPILER.

25. CATSUM=143672 PFN=LITTLEPL CY=1
OLD VERSION OF LITTLE COMPILER PROPER IN FORTRAN

26. CATSUM=26702 PFN=LITTLETESTPL CY=8
TEST PROGRAMS FOR THE LITTLE COMPILER.

27. CATSUM=36342 PFN=LTLASPLF CY=11
LITTLE ASSEMBLER IN FORTRAN

28. CATSUM=146455 PFN=LTLGENPLF CY=10
LITTLE COMPILER PROPER IN FORTRAN.

29. CATSUM=72750 PFN=LTLLEXPLF CY=16
LITTLE LEXICAL SCANNER AND MACRO PROCESSOR IN FORTRAN.

30. CATSUM=20566 PFN=LTLOPTPL CY=5
OPTIMIZATION ROUTINES FOR LITTLE IN SETLB.

31. CATSUM=120223 PFN=LTLPL CY=10
LITTLE PARSER, CODE GENERATORS, PRINT UTILITY; ALL IN LITTLE.

32. CATSUM=126046 PFN=MANUALSPL CY=5
VARIOUS SETL AND LITTLE NEWSLETTERS, AND THE MANUALMAKER PROGR

33. CATSUM=560 PFN=NEWS78 CY=1
GENESIS OF SETL NEWSLETTER 78.

34. CATSUM=235 PFN=NEWS79 CY=1
GENESIS OF SETL NEWSLETTER 79.

35. CATSUM=360 PFN=NEWTYP CY=8
TYPE FINDING ALGORITHM IN SETL.

36. CATSUM=1176 PFN=PAR1 CY=2
TOP DOWN PARSER IN SETL.

37. CATSUM=20265 PFN=SETLRTESTPACKAGES CY=20
SEE PART 7 OF THIS DOCUMENT.

38. CATSUM=130623 PFN=SETLLIBPL CY=11
SETL RUN TIME LIBRARY IN LITTLE.

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FRESH APCHIVES WERE CREATED 9/73. TAPE 5 IS IN WESTCHESTER AND AVAILABLE FROM F. ALLEN. TAPE 6 IS IN LOS ALAMOS AND AVAILABLE FROM J. MORRIS. ANOTHER TAPE IS IN THE VAULT HERE AT COURANT. THE 40 ITEMS LISTED BELOW ARE FILES 1 - 40 ON EACH OF THESE TAPES. THE FIRST OF THE TWO LINES DESCRIBING EACH ITEM GIVES THE ITEM NUMBER, CIMLIB NAME, LAST CIMLIB MOD DATE, AND NUMBER OF WORDS.

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1. TBALM4 09/11/73 10415
   THE BALM4 SYSTEM.

2. SAVESETL 09/11/73 39226
   THE BALM SETL SAVED FILE.

3. SRC1208 09/11/73 10305
   THE BALM SETL SOURCE FILE.

4. SNEWSPL 09/14/73 63443
   SETL AND LITTLE MACHINE READABLE NEWSLETTERS.

5. SLIBPL 09/14/73 90708
   THE SETL RUN TIME LIBRARY.

6. LEXPL 09/17/73 21135
   LITTLE LEXICAL SCANNER IN LITTLE - SOURCE.

7. GENPL 09/17/73 24263
   LITTLE COMPILER IN LITTLE - SOURCE.

8. ASMPL 09/17/73 45235
   LITTLE ASSEMBLER IN LITTLE - SOURCE.

9. LLIBPLF 09/17/73 9569
   LITTLE RUN TIME LIBRARY FOR BOOTSTRAP COMPILER - SOURCE.

10. EDITSTL 09/17/73 8648
    EDITING PROGRAM IN SETL.

11. UPDTSTL 09/17/73 5648
    UPDATE PROGRAM IN SETL.

12. LMANUAL 09/05/73 3986
    LITTLE USER'S MANUAL.

13. LLIBPL 09/05/73 10691
    LITTLE RUN TIME LIBRARY IN LITTLE - SOURCE.

14. TOPDNPL 09/05/73 8330
    TOP-DOWN METAPARSER - SOURCE.

15. TOPDOWN 09/05/73 26198
    BINARY FOR ITEM 14.

16. GOLDPL 07/25/73 45468
    A PREVIOUS ARCHIVING SYSTEM - SOURCE.

17. TAPE 746 07/25/73 6792
    VARIOUS SYSTEMS PROGRAMS OF R. PAIGE.

18. TAPE 745 07/25/73 6531
    CONTINUATION OF ITEM 17.

19. TAPE 749 07/25/73 17795
    CONTINUATION OF ITEM 18.

20. LDSPL 07/10/73 45077
VARIOUS SYSTEMS PROGRAMS OF D. SHIELDS.

21. LTLLEXF 07/10/73 30383
BINARY FOR LITTLE LEXICAL SCANNER IN FORTRAN.

22. LTLLEX2 07/10/73 10664
ANOTHER VERSION OF ITEM 21.

23. LTESTPL 05/25/73 11733
LITTLE TEST PROGRAMS - SOURCE.

24. STLBPL 05/15/73 42077
SOURCE FOR FORTRAN EXECUTABLE PORTION OF THE SETLR SYSTEM.

25. DLTLPL 05/15/73 18449
BOOTSTRAP UTILITY PROGRAMS.

26. LDSARC 05/15/73 25841
SOURCE UTILITY PROGRAMS OF D. SHIELDS.

27. LDSLIB 05/15/73 25693
CONTINUATION OF ITEM 26.

28. OGENPLF 05/15/73 31038
OBSOLETE LITTLE COMPILER - SOURCE.

29. OASMPLF 05/15/73 16105
OBSOLETE LITTLE ASSEMPLER - SOURCE.

30. ASIDENT 05/16/73 10166
EDIT UPDATE INTERFACE.

31. SOAPSPL 05/16/73 58123
SOAPSUDS OPERATING SYSTEM - SOURCE.

32. STESTPL 05/16/73 8373
SETLB TEST PACKAGES.

33. SALGPL 05/16/73 19118
SETLB ALGORITHMS - PROGRAM LIBRARY.

34. SNOPL 05/16/73 695
SNOBOL PROGRAMS TO REFORMAT SETL PROGRAMS.

35. LOPTPL 05/16/73 11452
OPTIMIZATION ROUTINES IN SETL.

36. SLBPL 05/11/73 16153
THE SETLB LIBRARY - SOURCE.

37. CIMSPL 05/11/73 13117
SOURCE DEFINING THE CURRENT ARCHIVING SYSTEM.

38. LEXPLF 05/11/73 18769
LITTLE LEXICAL SCANNER IN FORTRAN.

39. GNEPLF 05/11/73 25775
LITTLE COMPILER IN FORTRAN.

40. ASMPLF 05/11/73 14146
LITTLE ASSEMBLER IN FORTRAN.

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